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RESEARCH MEMORANDUM

EVALUATION OF GUST AND DRAFT VELOCITIES FROM FLIGHTS OF

P-61C AIRPLANES WITHIN THUNDERSTORMS

AUGUST 17, 1946 TO AUGUST 19, 1946

AT ORLANDO, FLORIDA

By

H. B. Tolefson

Langley Memorial Aeronautical Laboratory
Langley Field, Va.

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Results obtained from gust and draft velocity measurements within thunderstorms for the period August 17, 1946 to August 19, 1946 at Orlando, Florida are presented herein. These data are summarized in tables I and II and are of the type presented in reference 1 for previous flights.

Inspection of photo-observer records taken on the present flights indicated that no ambient-air temperature data were obtained.

Langley Memorial Aeronautical Laboratory
National Advisory Committee for Aeronautics
Langley Field, Va.

Harold B. Tolefson
Aeronautical Engineer

Approved:

Richard V. Rhode
Chief of Aircraft Loads Division

MEL

REFERENCE

1. Tolefson, H. B.: Evaluation of Gust and Draft Velocities from Flights of P-61C Airplanes within Thunderstorms August 14, 1946 to August 15, 1946 at Orlando, Florida. NACA RM No. L7C31, 1947.

TABLE I.- SUMMARY OF GUST MEASUREMENTS FROM FLIGHTS
OF P-61C AIRPLANES WITHIN THUNDERSTORMS

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 17, 1946 - Flight 23					
Airplane 344 Traverse 1		Time (EST) - (a) Length of traverse 267.2 sec, 96,863 ft Initial heading (deg) - (a)			
0 - 3	26,000	----	----	----	0
3 - 6		----	----	----	0
6 - 9		----	----	----	0
9 - 12		----	----	----	0
12 - 15		----	----	----	0
15 - 18		----	-3.8	----	1
18 - 21		5.1	-7.6	----	4
21 - 24	25,500	4.1	-2.5	6.3	72
24 - 27		15.8	-8.9	----	3
27 - 30		12.4	-2.5	----	4
30 - 33		----	-9.8	----	4
33 - 36		5.1	-2.5	----	4
36 - 39		6.0	-6.3	----	5
39 - 42		----	-6.0	-11.9	225
42 - 45		12.4	-3.5	----	2
45 - 48		4.8	-9.8	----	2
48 - 51		3.8	-6.3	----	7
51 - 54		----	-3.5	----	1
54 - 57		----	-3.5	----	1
57 - 60		4.8	-2.9	8.2	262
60 - 63		----	----	----	0
63 - 66		1.9	-2.9	----	2
66 - 69		----	----	----	0
69 - 72		----	----	----	0
72 - 75	26,000	1.9	----	----	1
75 - 78		2.5	-4.4	----	3
78 - 81	25,500	2.5	-3.5	----	2
81 - 84		4.1	----	----	1
84 - 87		1.9	----	----	1
87 - 90		4.1	----	----	1
90 - 93		3.2	----	9.8	331
93 - 96		----	-3.5	----	1
96 - 99		----	----	----	0

^a No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e \max}$ (fps)	Maximum true gust velocity $U_{t \max}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 17, 1946 - Flight 23					
Airplane 344 Traverse 2		Time (EST) 155900 - 155959 Length of traverse 84.2 sec, 30,367 ft Initial heading (deg) 90			
0 - 3	25,500	2.5	-----	-----	1
3 - 6		4.7	-----	-----	2
6 - 9	26,000	-----	-10.7	-----	1
9 - 12		3.5	-6.3	-----	3
12 - 15	25,500	6.6	-6.6	9.7 -7.6	3
15 - 18		6.6	-3.5	-----	2
18 - 21		3.5	-3.5	-----	3
21 - 24		6.6	-3.5	-----	5
24 - 27		4.7	-9.1	-----	3
27 - 30		2.2	-3.5	-----	3
30 - 33		-----	-----	-----	0
Airplane 344 Traverse 3		Time (EST) - (a) Length of traverse 268.3 sec, 99,458 ft Initial heading (deg) - (a)			
0 - 3	25,500	4.4	-----	-----	1
3 - 6		-----	-----	-----	0
6 - 9		-----	-----	-----	0
9 - 12		-----	-2.8	-----	1
12 - 15		-----	-2.8	-----	1
15 - 18		-----	-----	-----	0
18 - 21		4.7	-2.8	-----	2
21 - 24		2.5	-3.4	-----	3
24 - 27		1.9	-5.9	-----	3
27 - 30		4.7	-4.1	-----	2
30 - 33		1.9	-3.4	----- -8.7	3
33 - 36		5.9	-3.4	-----	3
36 - 39		5.6	-----	-----	1
39 - 42		3.7	-2.8	-----	2
42 - 45		3.1	-5.6	-----	2
45 - 48		1.9	-----	-----	1

^a No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e \max}$ (fps)	Maximum true gust velocity $U_{t \max}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 17, 1946 - Flight 23					
Airplane 344 Traverse 3		Time (EST) - (a) Length of traverse 268.3 sec, 99,458 ft Initial heading (deg) - (a)			
48 - 51	25,500	6.2	-----	-----	1
51 - 54		-----	-3.4	-----	2
54 - 57		4.7	-5.9	-----	3
57 - 60		-----	-----	-----	0
60 - 63		2.5	-4.4	-----	1
63 - 66		-----	-3.4	-----	1
66 - 69		1.9	-3.4	-----	3
69 - 72		1.9	-3.4	-----	3
72 - 75		6.2	-2.5	-5.0	228
75 - 78		4.4	-3.7	5.1	114
78 - 81		4.7	-3.4	-----	3
81 - 84		3.7	-5.3	-10.8	111
84 - 87		3.1	-4.7	-----	2
87 - 90		-----	-3.4	-----	1
90 - 93		1.9	-3.4	-----	3
93 - 96		1.9	-----	-----	1
96 - 99		4.7	-----	-----	1
99 - 102		-----	-----	-----	0
Airplane 344 Traverse 4		Time (EST) 162035 - 162348 Length of traverse 223.5 sec, 68,081 ft Initial heading (deg) 90			
0 - 3	25,500	8.1	-----	-----	1
3 - 6		2.5	-----	-----	2
6 - 9	26,000	-----	-----	-----	0
9 - 12		-----	-4.0	-----	1
12 - 15	25,500	-----	-----	-----	0
15 - 18		2.8	-----	-----	1
18 - 21		5.0	-3.1	-----	2
21 - 24		-----	-3.7	-----	1
24 - 27	25,000	-----	-----	-----	0
27 - 30		2.5	-----	-----	1

*No records obtained..

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e,max}$ (fps)		Maximum true gust velocity $U_{t,max}$ (fps)		Gust gradient distance (ft)		No. of gusts	
August 17, 1946 - Flight 23									
Airplane 344 Traverse 4		{ Time (EST) 162035 - 162348 Length of traverse 223.5 sec, 68,081 ft Initial heading (deg) 90							
30 - 33	25,000	9.3	-9.6	----	-----	----	----	4	
33 - 36		7.8	-4.0	----	-----	----	----	5	
36 - 39		5.3	-7.8	----	-----	----	----	5	
39 - 42		3.1	-9.9	----	-----	----	----	4	
42 - 45		5.9	-10.9	----	-----	----	----	4	
45 - 48		9.3	-9.3	12.5	-----	126	----	6	
48 - 51		2.8	-5.3	----	-18.1	-----	129	6	
51 - 54	25,500	5.0	-----	----	-----	----	----	1	
54 - 57		8.7	-----	27.1	-----	138	----	2	
57 - 60		1.9	-6.2	10.7	-----	80	----	3	
60 - 63		3.1	-8.1	----	-----	----	----	4	
63 - 66		-----	-5.3	----	-----	----	----	2	
66 - 69		25,000	9.9	-----	16.0	-----	79	----	2
Airplane 345 Traverse 1			{ Time (EST) 155025 - 155545 Length of traverse 358.5 sec, 120,640 ft Initial heading (deg) 330						
0 - 3	20,500	3.2	-2.2	----	-13.5	----	514	3	
3 - 6		2.5	-5.1	----	-13.4	----	307	4	
6 - 9		-----	-----	----	-----	----	----	0	
9 - 12		8.9	-4.5	----	-----	----	----	4	
12 - 15		3.2	-11.5	----	-----	----	----	2	
15 - 18		2.5	-6.7	10.6	-----	35	----	4	
18 - 21		15.9	-12.7	----	-----	----	----	6	
21 - 24		15.3	-7.6	----	-----	----	----	6	
24 - 27		9.2	-7.6	23.1	-----	131	----	4	
27 - 30		7.6	-7.3	----	-----	----	----	4	
30 - 33		2.9	-6.4	----	-----	----	----	2	
33 - 36		-----	-3.8	----	-----	----	----	2	
36 - 39		-----	-3.5	----	-----	----	----	2	
39 - 42		-----	-----	----	-----	----	----	0	
42 - 45		-----	-3.5	----	-----	----	----	2	
45 - 48		2.9	-3.5	----	-----	----	----	3	
48 - 51		-----	-6.7	----	-----	----	----	2	

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)	No. of gusts
August 17, 1946 - Flight 23							
Airplane 345 Traverse 1		{ Time (EST) 155025 - 155545 Length of traverse 358.5 sec, 120,640 ft Initial heading (deg) 330					
51 - 54	20,500	4.8	-6.4	11.1	-----	160	6
54 - 57		7.3	-9.5	-----	-----	-----	5
57 - 60		8.9	-4.5	-----	-----	-----	4
60 - 63		8.9	-5.7	-----	-----	-----	4
63 - 66	21,000	2.9	-7.3	-----	-16.3	-----	6
66 - 69		2.9	-7.3	-----	-----	-----	5
69 - 72		5.1	-3.2	6.2	-----	103	4
72 - 75		3.2	-5.1	-----	-----	-----	4
75 - 78		2.5	-7.0	-----	-12.2	-----	6
78 - 81		-----	-4.5	-----	-6.5	-----	1
81 - 84		2.5	-3.2	-----	-----	-----	4
84 - 87		-----	-3.8	-----	-----	-----	1
87 - 90		-----	-3.2	-----	-----	-----	2
90 - 93		4.5	-5.4	-----	-----	-----	5
93 - 96		6.0	-4.5	-----	-----	-----	6
96 - 99		4.1	-5.1	8.5	-----	33	4
99 - 102		-----	-3.5	-----	-----	-----	2
102 - 105		4.1	-----	-----	-----	-----	1
105 - 108		-----	-----	-----	-----	-----	0
108 - 111		-----	-----	-----	-----	-----	0
111 - 114		2.5	-----	-----	-----	-----	1
114 - 117	20,500	-----	-3.2	-----	-----	-----	1
117 - 120		-----	-----	-----	-----	-----	0
120 - 123		-----	-----	-----	-----	-----	0
Airplane 347 Traverse 1		{ Time (EST) - (b) Length of traverse 265.6 sec, 79,939 ft Initial heading (deg) - (b)					
0 - 3	16,500	6.4	-3.5	-----	-8.2	-----	2
3 - 6		7.0	-8.9	14.8	-----	227	7
6 - 9		11.2	-13.1	11.7	-----	177	6
9 - 12	16,000	8.0	-6.1	-----	-9.5	-----	4
12 - 15		5.1	-3.2	-----	-----	-----	6

^bNot readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity U _{e max} (fps)		Maximum true gust velocity U _{t max} (fps)		Gust gradient distance (ft)		No. of gusts
August 17, 1946 - Flight 23								
Airplane 347 Traverse 1		{ Time (EST) - (b) Length of traverse 265.6 sec, 79,939 ft Initial heading (deg) - (b)						
15 - 18	16,000	5.1	-5.1	----	-----	----	----	9
18 - 21		5.4	-5.4	----	-5.6	----	120	7
21 - 24		7.3	-8.3	----	-11.8	----	125	7
24 - 27	15,500	6.7	-2.9	----	-7.2	----	66	5
27 - 30		6.7	-5.4	9.6	-9.6	67	67	6
30 - 33		6.1	-2.9	----	-5.7	----	95	8
33 - 36	16,000	8.0	-7.3	----	-14.4	----	183	4
36 - 39		7.7	-11.2	14.6	-----	89	----	5
39 - 42		7.0	-6.1	14.0	-----	177	----	3
42 - 45		7.7	-3.8	19.1	-----	298	----	6
45 - 48		5.1	-6.1	9.0	-----	236	----	3
48 - 51		6.1	-6.1	----	-10.1	----	244	3
51 - 54		----	-----	----	-----	----	----	0
54 - 57		6.1	-3.2	----	----	----	----	4
57 - 60		2.2	-----	----	-----	----	----	2
60 - 63		----	-----	----	-----	----	----	0
63 - 66		3.2	-3.8	4.5	-----	180	----	2
66 - 69		4.5	-3.2	----	-----	----	----	2
69 - 72		6.4	-4.5	----	-5.8	----	89	5
72 - 75		2.9	-6.1	5.6	-9.0	59	118	5
75 - 78		5.4	-7.7	11.3	-7.9	215	208	4
78 - 81		3.2	-----	----	-----	----	----	1
Airplane 347 Traverse 2		{ Time (EST) - (b) Length of traverse 278.2 sec, 84,573 ft Initial heading (deg) - (b)						
0 - 3	16,000	5.1	-6.0	----	-----	----	----	3
3 - 6		4.8	-----	----	-----	----	----	2
6 - 9		2.2	-3.5	9.5	-6.1	221	138	5
9 - 12		5.4	-3.5	----	-6.2	----	219	3
12 - 15		----	-3.5	----	-----	----	----	1
15 - 18		----	-----	----	-----	----	----	0

b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 17, 1946 - Flight 23								
Airplane 347 Traverse 2		{ Time (EST) - (b) Length of traverse 278.2 sec, 84,573 ft Initial heading (deg) - (b)						
18 - 21	16,000	5.1	-3.2	----	----	----	----	3
21 - 24		----	-5.7	----	----	----	----	1
24 - 27		3.8	-3.2	----	----	----	----	2
27 - 30		5.7	----	3.3	----	188	----	2
30 - 33		4.4	-3.2	----	----	----	----	2
33 - 36		5.7	-5.4	7.9	-7.7	31	160	3
36 - 39		4.1	----	7.5	----	315	----	1
39 - 42		1.9	-2.9	3.3	----	162	----	2
42 - 45		6.0	-6.0	----	----	----	----	2
45 - 48		1.9	----	----	----	----	----	1
48 - 51		----	-3.2	----	----	----	----	1
51 - 54		----	-3.2	----	-5.6	----	126	1
54 - 57		4.1	----	----	----	----	----	2
57 - 60		4.4	----	7.8	----	225	----	3
60 - 63		3.8	-2.9	----	----	----	----	2
63 - 66		4.2	-3.2	----	----	----	----	6
66 - 69		3.2	-5.8	----	----	----	----	3
69 - 72		4.9	-3.2	----	----	----	----	5
72 - 75		9.7	-11.4	----	-9.1	----	125	8
75 - 78		7.5	-5.2	21.3	----	500	----	6
78 - 81		8.4	-6.2	----	----	----	----	4
81 - 84		4.9	-12.0	7.9	----	64	----	6
84 - 87		7.8	-6.2	----	----	----	----	2
Airplane 347 Traverse 3		{ Time (EST) - (b) Length of traverse 479.6 sec, 144,144 ft Initial heading (deg) 240						
0 - 3	16,000	----	----	----	----	----	----	0
3 - 6		----	----	----	----	----	----	0
6 - 9		----	----	----	----	----	----	0
9 - 12		3.2	----	5.8	----	275	----	1
12 - 15		----	----	----	----	----	----	0

^b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts		
August 17, 1946 - Flight 23							
Airplane 347 Traverse 3		{ Time (EST) - (b) Length of traverse 479.6 sec, 144,144 ft Initial heading (deg) 240					
15 - 18	16,000	3.2	-----	-----	-----	1	
18 - 21		-----	-----	-----	-----	0	
21 - 24		-----	-----	-----	-----	0	
24 - 27		-----	-----	-----	-----	0	
27 - 30		-----	-3.2	-----	-5.0	263	1
30 - 33		-----	-----	-----	-----	-----	0
33 - 36		4.4	-3.2	-----	-----	-----	2
36 - 39		5.4	-4.7	-----	-----	-----	2
39 - 42		2.2	-3.2	-----	-----	-----	2
42 - 45		3.2	-4.1	4.5	-7.3	91 242	3
45 - 48		2.2	-----	-----	-----	-----	1
48 - 51		3.2	-5.7	7.7	-----	180	2
51 - 54		2.8	-----	-----	-----	-----	2
54 - 57		-----	-3.5	-----	-----	-----	3
57 - 60		2.2	-6.0	-----	-----	-----	4
60 - 63		3.5	-----	-----	-----	-----	1
63 - 66		4.4	-----	-----	-----	-----	1
66 - 69		-----	-3.2	-----	-----	-----	2
69 - 72		2.2	-----	-----	-----	-----	3
72 - 75		2.2	-3.2	6.9	-----	88	3
75 - 78	2.2	-3.2	6.4	-----	29	2	
78 - 81	4.4	-----	-----	-----	-----	2	
81 - 84	3.2	-3.2	-----	-----	-----	2	
84 - 87	-----	-4.7	-----	-----	-----	1	
87 - 90	6.0	-3.2	-----	-----	-----	2	
90 - 93	4.7	-3.2	-----	-----	-----	3	
93 - 96	3.2	-----	-----	-----	-----	2	
96 - 99	-----	-5.4	-----	-----	-----	1	
99 - 102	3.8	-2.5	-----	-----	-----	3	
102 - 105	5.0	-6.0	8.6	-8.8	59 207	4	
105 - 108	3.8	-2.5	-----	-----	-----	3	
108 - 111	2.5	-2.5	-----	-----	-----	2	
111 - 114	2.2	-3.2	-----	-----	-----	3	

^b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)	No. of gusts
August 17, 1946 - Flight 23							
Airplane 347 Traverse 3		Time (EST) - (b) Length of traverse 479.6 sec, 144,144 ft Initial heading (deg) 240					
114 - 117	16,000	----	----	----	----	----	0
117 - 120		4.4	----	8.6	----	298	2
120 - 123		----	-8.2	----	----	----	1
123 - 126		2.2	----	----	----	----	1
126 - 129		----	-3.2	----	----	----	1
129 - 132		----	----	----	----	----	0
132 - 135		2.2	----	----	----	----	3
135 - 138		----	-2.5	----	----	----	1
138 - 141		1.9	-3.2	----	-4.4	125	2
141 - 144		1.9	-2.8	----	----	----	2
144 - 147	----	----	----	----	----	----	0
Airplane 347 Traverse 4		Time (EST) - (b) Length of traverse 221.9 sec, 73,464 ft Initial heading (deg) 60					
0 - 3	15,500	4.7	----	8.6	----	330	2
3 - 6		1.9	-2.8	----	----	----	3
6 - 9		5.0	-2.8	----	----	----	2
9 - 12		----	-3.1	----	-5.4	185	2
12 - 15		1.9	-4.7	----	----	----	2
15 - 18		9.1	----	18.4	----	481	1
18 - 21		1.9	----	----	----	----	1
21 - 24		3.4	----	----	----	----	1
24 - 27	16,000	----	----	----	----	----	0
27 - 30		1.9	----	----	----	----	1
30 - 33		1.9	----	----	----	----	1
33 - 36		2.5	-5.0	----	-8.8	202	5
36 - 39		5.6	-2.8	----	----	----	4
39 - 42		1.9	-6.9	----	----	----	2
42 - 45		5.0	-3.4	----	----	----	4
45 - 48		4.1	-4.7	----	----	----	7
48 - 51		1.9	-2.8	7.7	----	132	2
51 - 54		4.1	-2.8	7.2	----	168	3

b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity U _e _{max} (fps)		Maximum true gust velocity U _t _{max} (fps)		Gust gradient distance (ft)		No. of gusts	
August 17, 1946 - Flight 23									
Airplane 347 Traverse 4		Time (EST) - (b) Length of traverse 221.9 sec, 73,464 ft Initial heading (deg) 60							
54 - 57	16,000	----	----	----	----	----	----	0	
57 - 60		2.8	-2.8	----	----	----	----	5	
60 - 63		1.9	-2.8	----	----	----	----	2	
63 - 66		7.8	-3.8	----	-5.3	----	70	6	
66 - 69		4.1	-2.8	7.3	----	103	----	5	
69 - 72		2.8	-4.7	----	----	----	----	4	
72 - 75		----	-2.8	----	----	----	----	1	
Airplane 351 Traverse 1		Time (EST) 154720 - (c) Length of traverse 263.3 sec, 73,323 ft Initial heading (deg) 290							
0 - 3	11,500	----	-4.8	----	----	----	----	1	
3 - 6		6.8	-7.7	19.6	-13.6	100	75	5	
6 - 9		----	----	----	----	----	----	0	
9 - 12		----	-6.4	----	-10.0	----	78	2	
12 - 15		11.9	-9.7	----	-15.4	----	184	6	
15 - 18		9.7	-16.4	12.0	----	53	----	3	
18 - 21		7.4	-6.8	----	----	----	----	5	
21 - 24		10.3	-12.2	----	----	----	----	5	
24 - 27		6.4	-7.4	----	----	----	----	2	
27 - 30		6.1	-6.1	9.0	----	83	----	4	
30 - 33		5.2	-11.3	----	----	----	----	4	
33 - 36		11,000	6.1	-9.0	----	-19.5	----	55	10
36 - 39			10.6	-6.1	14.5	----	110	----	5
39 - 42			3.2	-11.3	7.8	----	83	----	5
42 - 45			6.1	-6.8	12.4	----	28	----	4
45 - 48	12.2		-19.0	9.4	-22.5	268	29	6	
48 - 51		13.2	-12.9	20.2	-24.6	117	93	7	
51 - 54		9.3	-8.4	----	----	----	----	8	
54 - 57		9.3	-6.1	----	----	----	----	7	
57 - 60		4.5	-4.5	----	----	----	----	2	

^bNot readable.^cRecords for complete traverse not obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e,max}$ (fps)		Maximum true gust velocity $U_{t,max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 17, 1946 - Flight 23								
Airplane 351 Traverse 1		{ Time (EST) 154720 - (c) Length of traverse 263.3 sec, 73,323 ft Initial heading (deg) 290						
60 - 63	11,500	----	-6.8	----	-----	----	-----	1
63 - 66		----	-----	----	-----	----	-----	0
66 - 69		----	-----	----	-----	----	-----	0
69 - 72	11,000	3.5	-----	----	-----	----	-----	1
72 - 75		----	-----	----	-----	----	-----	0
Airplane 351 Traverse 2		{ Time (EST) 155500 - (b) Length of traverse 363.5 sec, 99,423 ft Initial heading (deg) 120						
0 - 3	11,000	----	-----	----	-----	----	-----	0
3 - 6		----	-----	----	-----	----	-----	0
6 - 9		----	-----	----	-----	----	-----	0
9 - 12		----	-----	----	-----	----	-----	0
12 - 15		----	-----	----	-----	----	-----	0
15 - 18		----	-----	----	-----	----	-----	0
18 - 21	10,500	----	-----	----	-----	----	-----	0
21 - 24		----	-----	----	-----	----	-----	0
24 - 27		----	-----	----	-----	----	-----	0
27 - 30	11,000	4.5	-----	----	-----	----	-----	1
30 - 33		----	-----	----	-----	----	-----	0
33 - 36		4.5	-----	----	-----	----	-----	1
36 - 39		----	-----	----	-----	----	-----	0
39 - 42		----	-----	----	-----	----	-----	0
42 - 45		5.1	-----	10.5	-----	84	-----	1
45 - 48		----	-6.4	----	-8.9	----	29	1
48 - 51	10,500	4.2	-9.9	----	-----	----	-----	4
51 - 54		10.6	-6.7	24.8	-----	191	-----	6
54 - 57		7.1	-6.4	14.8	-----	74	-----	7
57 - 60	11,000	6.1	-8.3	----	-----	----	-----	4
60 - 63		4.5	-6.1	----	-----	----	-----	5
63 - 66		----	-----	----	-----	----	-----	0
66 - 69		4.5	-----	----	-----	----	-----	1

^bNot readable.

^cRecords for complete traverse not obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 17, 1946 - Flight 23					
Airplane 351 Traverse 2 { Time (EST) 155500 - (b) Length of traverse 363.5 sec, 99,423 ft Initial heading (deg) 120					
69 - 72	11,000	8.7	----	----	1
72 - 75		3.2	-6.7	14.2 -14.3	7
75 - 78		----	----	55 69	0
78 - 81	10,500	4.8	-5.8	----	3
81 - 84		10.3	-10.6	----	4
84 - 87		3.2	----	----	1
87 - 90	11,000	----	----	----	0
90 - 93		5.1	----	----	1
93 - 96		----	----	----	0
96 - 99		5.1	-7.7	13.2	3
99 - 102		12.2	-7.7	----	2
Airplane 351 Traverse 3 { Time (EST) 160734 - (c) Length of traverse 353.3 sec, 96,016 ft Initial heading (deg) 250					
0 - 3	11,000	6.4	----	----	2
3 - 6		----	-7.3	----	2
6 - 9		4.1	-6.4	----	5
9 - 12		----	-6.7	----	3
12 - 15		10.5	-6.7	----	4
15 - 18		4.5	----	7.8	1
18 - 21		----	-7.0	----	1
21 - 24		----	-7.0	----	2
24 - 27		----	-6.7	----	1
27 - 30		----	----	-14.3	0
30 - 33		----	----	56	0
33 - 36		----	----	----	0
36 - 39		----	----	----	0
39 - 42		----	----	----	0
42 - 45		----	----	----	0
45 - 48		----	----	----	0
48 - 51		4.8	----	----	1
51 - 54		----	-6.4	----	1

^bNot readable.

^cRecords for complete traverse not obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity U _e max (fps)	Maximum true gust velocity U _t max (fps)	Gust gradient distance (ft)	No. of gusts	
August 17, 1946 - Flight 23						
Airplane 351 Traverse 3		Time (EST) 160734 - (c) Length of traverse 353.3 sec, 96,016 ft Initial heading (deg) 250				
54 - 57	11,000	----	----	----	0	
57 - 60		----	----	----	0	
60 - 63		6.1	----	----	1	
63 - 66		----	-6.7	----	1	
66 - 69		----	----	----	0	
69 - 72		5.1	-6.7	8.4	135	4
72 - 75		5.1	-5.7	10.9	56	2
75 - 78		3.2	----	----	----	1
78 - 81		3.2	-5.1	----	----	3
81 - 84		6.1	-5.1	----	----	2
84 - 87		3.5	-7.0	----	----	2
87 - 90		----	----	----	----	0
90 - 93		4.5	----	----	----	1
93 - 96		----	----	----	----	0
96 - 99		----	----	----	----	0
Airplane 351 Traverse 4		Time (EST) 161923 - 162358 Length of traverse 336.3 sec, 89,014 ft Initial heading (deg) 70				
0 - 3	11,000	----	----	----	0	
3 - 6		----	----	----	0	
6 - 9		----	----	----	0	
9 - 12	11,500	----	----	----	0	
12 - 15		----	----	----	0	
15 - 18		----	----	----	0	
18 - 21	11,000	----	-7.6	----	2	
21 - 24		7.3	-7.3	----	5	
24 - 27		----	----	----	3	
27 - 30	11,500	5.4	----	----	1	
30 - 33		6.6	14.8	37	1	
33 - 36		4.7	----	----	2	
36 - 39		----	-6.6	-14.8	25	1
39 - 42		6.6	-7.6	----	----	2

^cRecords for complete traverse not obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 17, 1946 - Flight 23								
Airplane 351 Traverse 4		{ Time (EST) 161923 - 162358 Length of traverse 336.3 sec, 89,014 ft Initial heading (deg) 70						
42 - 45	11,500	9.5	-7.3	----	-----	----	----	2
45 - 48		6.0	-11.1	----	-----	----	----	6
48 - 51		6.0	-----	----	-----	----	----	1
51 - 54		-----	-----	----	-----	----	----	0
54 - 57		6.3	-7.9	----	-----	----	----	4
57 - 60		-----	-7.3	----	-----	----	----	1
60 - 63		-----	-7.9	----	-----	----	----	2
63 - 66		6.6	-7.3	----	-----	----	----	3
66 - 69		-----	-----	----	-----	----	----	0
69 - 72		11,000	6.0	-----	----	-----	----	----
72 - 75	-----		-----	----	-----	----	----	0
75 - 78	-----		-----	----	-----	----	----	0
78 - 81	-----		-----	----	-----	----	----	0
81 - 84	-----		-----	----	-----	----	----	0
84 - 87	-----		-----	----	-----	----	----	0
87 - 90	-----		-----	----	-----	----	----	0
Airplane 333 ^a								
August 19, 1946 - Flight 24								
Airplane 344 Traverse 1		{ Time (EST) - (a) Length of traverse 93.5 sec, 36,181 ft Initial heading (deg) - (a)						
0 - 3	26,000	----	-----	----	-----	----	----	0
3 - 6		----	-----	----	-----	----	----	0
6 - 9		----	-6.3	----	-----	----	----	1
9 - 12		10.5	-10.8	----	-----	----	----	7
12 - 15	25,500	10.8	-9.8	----	-----	----	----	7
15 - 18		15.8	-6.7	----	-----	----	----	6
18 - 21		26,000	11.4	-5.7	----	-----	----	6
21 - 24		9.8	-7.3	----	-----	----	----	9

^aNo records obtained.

TABLE I. - SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity U _a _{max} (fps)	Maximum true gust velocity U _t _{max} (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 344 Traverse 1		Time (EST) - (a) Length of traverse 93.5 sec, 36,181 ft Initial heading (deg) - (a)			
24 - 27	26,000	12.0	-8.2	-----	6
27 - 30	25,500	1.9	-19.3	-----	6
30 - 33		7.6	-13.3	-----	8
33 - 36	26,000	8.6	-7.3	-----	4
36 - 39		-----	-----	-----	0
Airplane 344 Traverse 2		Time (EST) - (a) Length of traverse 231.1 sec, 95,410 ft Initial heading (deg) - (a)			
0 - 3	26,000	1.6	-----	-----	1
3 - 6		1.6	-----	-----	1
6 - 9		-----	-----	-----	0
9 - 12		1.6	-----	-----	1
12 - 15		-----	-----	-----	0
15 - 18	25,500	5.7	-2.8	-----	2
18 - 21		4.1	-----	-----	1
21 - 24		6.0	-----	-----	2
24 - 27		6.3	-----	-----	1
27 - 30		2.2	-----	-----	2
30 - 33	26,000	-----	-7.0	-12.7	1
33 - 36		-----	-6.0	-8.4	3
36 - 39		3.2	-4.1	-----	2
39 - 42		2.8	-5.4	-----	3
42 - 45	25,500	4.1	-3.2	10.9	2
45 - 48		-----	-2.8	-9.4	1
48 - 51		5.1	-4.7	-----	4
51 - 54		4.1	-2.5	-----	3
54 - 57		2.2	-5.4	-----	4
57 - 60		-----	-5.1	-----	1
60 - 63		-----	-6.0	-10.3	1
63 - 66		1.9	-----	-----	2
66 - 69		-----	-----	-----	0

^a No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 344 Traverse 2		Time (EST) - (a) Length of traverse 231.1 sec, 95,410 ft Initial heading (deg) - (a)						
69 - 72	25,500	1.6	-5.4	----	-----	----	-----	3
72 - 75		4.1	-----	----	-----	----	-----	1
75 - 78		1.9	-----	----	-----	----	-----	1
78 - 81		1.9	-----	----	-----	----	-----	1
81 - 84		----	-----	----	-----	----	-----	0
84 - 87		----	-4.1	----	-7.7	----	314	1
87 - 90		----	-----	----	-----	----	-----	0
90 - 93		----	-----	----	-----	----	-----	0
93 - 96		----	-----	----	-----	----	-----	0
Airplane 344 Traverse 3		Time (EST) - (a) Length of traverse 224.7 sec, 87,790 ft Initial heading (deg) - (a)						
0 - 3	26,000	----	-2.8	----	-4.4	----	273	1
3 - 6		----	-2.8	----	-----	----	-----	1
6 - 9		----	-----	----	-----	----	-----	0
9 - 12		----	-3.1	----	-----	----	-----	1
12 - 15		----	-3.1	----	-----	----	-----	1
15 - 18		----	-----	----	-----	----	-----	0
18 - 21	25,500	----	-----	----	-----	----	-----	0
21 - 24		----	-----	----	-----	----	-----	0
24 - 27		----	-----	----	-----	----	-----	0
27 - 30		----	-----	----	-----	----	-----	0
30 - 33		3.1	-5.7	5.8	-----	360	-----	2
33 - 36		----	-3.1	----	-----	----	-----	1
36 - 39		----	-4.1	----	-----	----	-----	2
39 - 42		6.9	-4.1	4.4	-----	120	-----	6
42 - 45		8.5	-9.4	----	-----	----	-----	6
45 - 48		----	-----	----	-----	----	-----	0
48 - 51	26,000	----	-----	----	-----	----	-----	0
51 - 54		----	-3.1	----	-----	----	-----	1

^a No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 344 Traverse 3		Time (EST) - (a) Length of traverse 224.7 sec, 87,790 ft Initial heading (deg) - (a)						
54 - 57	26,000	4.4	-8.2	----	----	----	----	5
57 - 60	25,500	7.2	-----	----	----	----	----	1
60 - 63	26,000	3.5	-9.4	----	----	----	----	4
63 - 66		2.5	-3.5	9.0	-----	74	----	2
66 - 69		6.0	-8.5	----	----	----	----	3
69 - 72		14.4	-8.2	----	----	----	----	2
72 - 75		10.4	-8.5	----	----	----	----	7
75 - 78	25,500	12.6	-4.1	----	----	----	----	5
78 - 81	26,000	17.9	-7.9	----	----	----	----	6
81 - 84		1.9	-6.0	----	----	----	----	3
84 - 87		----	-3.5	----	----	----	----	1
87 - 90		----	-----	----	----	----	----	0
Airplane 344 Traverse 4		Time (EST) - (a) Length of traverse 87.2 sec, 35,337 ft Initial heading (deg) - (a)						
0 - 3	26,000	----	-3.4	----	-8.5	----	340	2
3 - 6		3.4	-13.7	----	----	----	----	2
6 - 9		4.4	-8.4	----	----	----	----	5
9 - 12		17.2	-9.4	----	-29.0	----	457	5
12 - 15		11.5	-3.4	22.4	-----	40	----	6
15 - 18		1.9	-6.9	17.4	-----	205	----	3
18 - 21		3.1	-5.3	----	----	----	----	6
21 - 24		----	-7.2	----	----	----	----	2
24 - 27	25,500	6.6	-----	----	----	----	----	2
27 - 30	26,000	6.2	-2.8	----	----	----	----	6
30 - 33		----	-5.3	----	-4.5	----	285	1
33 - 36		----	-----	----	----	----	----	0

^aNo records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e \max}$ (fps)	Maximum true gust velocity $U_{t \max}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 344 Traverse 5		Time (EST) - (a) Length of traverse 242.9 sec, 96,793 ft Initial heading (deg) - (a)			
0 - 3	25,500	----	----	----	0
3 - 6		4.0	8.3	376	1
6 - 9		----	----	----	0
9 - 12		1.5	----	----	1
12 - 15		----	----	----	0
15 - 18		1.9	-3.1	----	2
18 - 21		----	-4.0	-6.3	1
21 - 24		----	-3.1	----	1
24 - 27		----	----	----	0
27 - 30		1.9	----	----	1
30 - 33		----	----	----	0
33 - 36	26,000	----	-3.1	----	1
36 - 39		----	-3.1	----	1
39 - 42		----	----	----	0
42 - 45		----	-3.7	----	1
45 - 48	25,500	3.1	----	----	1
48 - 51		3.7	7.6	320	1
51 - 54		----	----	----	0
54 - 57	26,000	1.9	9.3	278	1
57 - 60		----	-5.9	-6.7	5
60 - 63		1.9	-5.9	----	6
63 - 66		8.0	-7.7	----	7
66 - 69	25,500	8.0	-3.1	----	4
69 - 72	26,000	4.3	-5.3	----	4
72 - 75		----	-7.1	----	2
75 - 78		9.3	-7.4	----	2
78 - 81		----	----	----	0
81 - 84		----	-3.7	----	1
84 - 87		6.2	-5.6	----	4
87 - 90		6.5	-3.1	----	5
90 - 93		6.5	-7.7	----	7
93 - 96		1.9	-5.6	9.3	4
96 - 99		----	----	----	0

^aNo records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e \max}$ (fps)	Maximum true gust velocity $U_{t \max}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 344 Traverse 6		Time (EST) - (a) Length of traverse 59.8 sec, 23,659 ft Initial heading (deg) - (a)			
0 - 3	25,500	----	----	----	0
3 - 6		----	----	----	0
6 - 9	26,000	----	-5.9	----	1
9 - 12		7.1	-4.9	----	5
12 - 15		10.8	-8.3	----	5
15 - 18		16.1	-15.1	----	5
18 - 21		9.6	-10.2	----	6
21 - 24		11.1	-9.6	----	6
Airplane 345 Traverse 1		Time (EST) - (a) Length of traverse 307.7 sec, 102,781 ft Initial heading (deg) - (a)			
0 - 3	20,500	----	----	----	0
3 - 6		----	----	----	0
6 - 9		----	----	----	0
9 - 12		----	----	----	0
12 - 15		----	----	----	0
15 - 18		----	----	----	0
18 - 21		----	----	----	0
21 - 24		----	----	----	0
24 - 27		----	----	----	0
27 - 30		----	----	----	0
30 - 33		----	----	----	0
33 - 36	20,000	----	----	----	0
36 - 39		----	----	----	0
39 - 42		2.5	-2.5	----	2
42 - 45		2.5	-3.2	----	2
45 - 48		----	-3.2	----	1
48 - 51	20,500	2.5	-3.2	----	2
51 - 54		3.5	-6.0	----	3
54 - 57		2.8	5.2	153	1

^aNo records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 345 Traverse 1		{ Time (EST) - (a) Length of traverse 307.7 sec, 102,781 ft Initial heading (deg) - (a)			
57 - 60	20,500	----	-----	----	0
60 - 63		6.0	-----	----	2
63 - 66		6.0	-3.5	----	3
66 - 69		----	-3.5	----	2
69 - 72	21,000	----	-3.5	----	1
72 - 75		----	-4.7	----	2
75 - 78	20,500	2.8	-3.5	----	2
78 - 81		2.2	-----	5.3	1
81 - 84		2.2	-3.5	----	2
84 - 87		4.1	-4.4	-12.4	6
87 - 90		2.8	-6.6	5.7	4
90 - 93		.9	-4.7	----	5
93 - 96		2.8	-5.1	----	2
96 - 99		5.1	-3.5	----	3
99 - 102		3.5	-3.2	----	6
102 - 105		----	-----	----	0
Airplane 345 Traverse 2		{ Time (EST) - (a) Length of traverse 305.1 sec, 100,653 ft Initial heading (deg) - (a)			
0 - 3	20,500	2.8	-6.0	----	4
3 - 6		6.0	-----	----	1
6 - 9		2.8	-----	----	1
9 - 12		2.8	-----	----	1
12 - 15	21,000	----	-3.4	----	1
15 - 18		----	-3.8	----	1
18 - 21		1.6	-3.8	6.1	2
21 - 24		2.8	-----	----	2
24 - 27		1.6	-----	4.7	1
27 - 30		----	-4.4	----	1
30 - 33		3.8	-3.8	----	4
33 - 36		----	-3.8	----	1

^a No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24							
Airplane 345 Traverse 2		Time (EST) - (a) Length of traverse 305.1 sec, 100,653 ft Initial heading (deg) - (a)					
36 - 39	21,000	2.8	-4.4	----	----	----	2
39 - 42		3.8	-3.8	----	----	----	2
42 - 45		2.8	-3.4	----	----	----	2
45 - 48		5.0	-----	----	----	----	4
48 - 51		3.1	-11.0	----	----	----	2
51 - 54		5.0	-6.3	----	----	----	4
54 - 57		9.1	-6.9	----	----	----	3
57 - 60	20,500	5.3	-4.1	----	----	----	4
60 - 63		7.8	-6.0	----	----	----	5
63 - 66		2.5	-3.1	----	----	----	2
66 - 69		-----	-----	----	----	----	0
69 - 72		7.2	-5.0	11.7	-----	170	3
72 - 75		4.4	-7.2	----	----	----	7
75 - 78	21,000	12.5	-8.1	----	----	----	7
78 - 81		8.8	-16.9	----	----	----	5
81 - 84	20,500	8.1	-11.9	----	----	----	3
84 - 87		9.4	-8.5	----	----	----	5
87 - 90	20,000	18.8	-8.1	----	----	----	7
90 - 93		10.3	-13.5	----	----	----	4
93 - 96	20,500	7.2	-6.9	----	----	----	4
96 - 99		11.9	-14.4	----	----	----	4
99 - 102	21,000	----	-8.5	----	----	----	1
Airplane 345 Traverse 3		Time (EST) - (a) Length of traverse 272.7 sec, 87,746 ft Initial heading (deg) - (a)					
0 - 3	21,000	----	-----	----	----	----	0
3 - 6		----	-5.0	----	----	----	1
6 - 9		----	-----	----	----	----	0
9 - 12		----	-----	----	----	----	0
12 - 15		----	-----	----	----	----	0
15 - 18		----	-----	----	----	----	0
18 - 21		----	-7.2	----	----	----	2

^aNo records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 345 Traverse 3		{ Time (EST) - (a) Length of traverse 272.7 sec, 87,746 ft Initial heading (deg) - (a)						
21 - 24	21,000	11.2	-10.0	----	-----	----	----	7
24 - 27	20,500	15.3	-6.5	----	-----	----	----	6
27 - 30		11.8	-10.9	----	-----	----	----	4
30 - 33		8.7	-3.7	----	-----	----	----	5
33 - 36		7.8	-9.0	----	-----	----	----	6
36 - 39	21,000	6.9	-10.0	----	-----	----	----	5
39 - 42		10.0	-4.7	----	-----	----	----	5
42 - 45		6.9	-5.9	6.4	-----	147	----	3
45 - 48		7.5	-3.1	8.8	-----	133	----	5
48 - 51	21,500	2.8	-6.5	----	-----	----	----	3
51 - 54		----	-----	----	-----	----	----	0
54 - 57		4.1	-3.4	----	-----	----	----	3
57 - 60		4.7	-4.1	13.0	-----	195	----	2
60 - 63		2.8	-3.4	----	-----	----	----	3
63 - 66		----	-3.7	----	-----	----	----	1
66 - 69		3.7	-----	7.8	-----	62	----	2
69 - 72		----	-9.4	----	-7.0	----	182	2
72 - 75		5.3	-3.7	----	-----	----	----	2
75 - 78		5.6	-3.4	----	-----	----	----	3
78 - 81		4.1	-2.8	----	-----	----	----	5
81 - 84		2.8	-5.3	11.7	-----	195	----	6
84 - 87		----	-----	----	-----	----	----	0
87 - 90		----	-----	----	-----	----	----	0
Airplane 345 Traverse 4		{ Time (EST) - (a) Length of traverse 333.9 sec, 110,384 ft Initial heading (deg) - (a)						
0 - 3	20,500	----	-----	----	-----	----	----	0
3 - 6		----	-----	----	-----	----	----	0
6 - 9		----	-3.4	----	-----	----	----	1
9 - 12		----	-----	----	-----	----	----	0
12 - 15		----	-----	----	-----	----	----	0

^a
No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 345 Traverse 4		Time (EST) - (a) Length of traverse 333.9 sec, 110,384 ft Initial heading (deg) - (a)			
15 - 18	20,500	----	----	----	0
18 - 21		----	----	----	0
21 - 24		----	-3.4	----	1
24 - 27		----	----	----	0
27 - 30		----	----	----	0
30 - 33		----	----	----	0
33 - 36	21,000	----	----	----	0
36 - 39		----	----	----	0
39 - 42		----	----	----	0
42 - 45	20,500	----	----	----	0
45 - 48		----	----	----	0
48 - 51		----	----	----	0
51 - 54		4.9	-6.2	----	2
54 - 57		----	-3.4	----	1
57 - 60	21,000	2.8	----	11.0	3
60 - 63		----	-5.9	----	1
63 - 66		2.8	-5.9	6.8	3
66 - 69		----	-4.6	----	2
69 - 72		6.2	-5.9	----	7
72 - 75		4.6	-3.4	----	2
75 - 78		3.4	-4.3	----	3
78 - 81		----	-7.1	----	3
81 - 84	20,500	9.3	-3.4	----	4
84 - 87		5.9	-3.4	----	5
87 - 90		5.9	-3.4	----	9
90 - 93		2.8	-5.6	----	4
93 - 96		3.7	-5.9	----	7
96 - 99 ^c		4.6	-5.9	----	5

^aNo records obtained.^cRecords for complete traverse not obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)		Maximum true gust velocity $U_{t\max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 351 Traverse 1		{ Time (EST) 142640 - 143140 Length of traverse 127.8 sec, 38,016 ft Initial heading (deg) 300						
0 - 3	16,500	----	-----	----	-----	----	-----	0
3 - 6		----	-----	----	-----	----	-----	0
6 - 9	16,000	----	-----	----	-----	----	-----	0
9 - 12		7.9	-7.3	----	-15.4	----	58	4
12 - 15		12.7	-15.6	----	-----	----	-----	7
15 - 18		10.2	-14.3	----	-26.7	----	126	6
18 - 21		9.8	-7.6	----	-20.8	----	120	4
21 - 24		9.2	-11.8	21.6	-----	30	----	6
24 - 27	16,500	9.8	-11.8	----	-----	----	-----	4
27 - 30		1.9	-7.6	----	-----	----	-----	2
30 - 33		6.4	-8.9	----	-----	----	-----	6
33 - 36		1.9	-7.9	----	-13.9	----	146	5
36 - 39		----	-----	----	-----	----	-----	0
Airplane 351 Traverse 2		{ Time (EST) - (a) Length of traverse 187.4 sec, 53,923 ft Initial heading (deg) - (a)						
0 - 3	16,500	----	-----	----	-----	----	-----	0
3 - 6		----	-----	----	-----	----	-----	0
6 - 9	17,000	----	-----	----	-----	----	-----	0
9 - 12		6.3	-8.6	----	-----	----	-----	4
12 - 15	16,500	----	-----	----	-----	----	-----	0
15 - 18		10.5	-7.6	----	-----	----	-----	3
18 - 21		5.4	-11.1	----	-----	----	-----	4
21 - 24	16,000	4.8	-7.3	----	-----	----	-----	3
24 - 27		8.9	-----	8.8	-----	320	----	2
27 - 30		----	-7.6	----	-----	----	-----	1
30 - 33	16,500	10.1	-7.9	----	-----	----	-----	4
33 - 36		5.7	-11.7	18.6	-17.7	191	258	3
36 - 39	16,000	5.1	-7.9	13.8	-----	88	----	4
39 - 42		4.4	-7.6	9.4	-----	324	----	4
42 - 45		5.1	-11.7	----	-13.8	----	298	3

^aNo records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 351 Traverse 2		Time (EST) - (a) Length of traverse 187.4 sec, 53,923 ft Initial heading (deg) - (a)			
45 - 48	16,000	5.1	----	----	3
48 - 51		----	----	0	
51 - 54		----	----	0	
Airplane 351 Traverse 3		Time (EST) 144030 - 144530 Length of traverse 318.2 sec, 94,170 ft Initial heading (deg) 60			
0 - 3	16,500	----	-8.2	----	1
3 - 6	16,000	----	----	----	0
6 - 9		----	-6.0	----	1
9 - 12		5.0	----	----	1
12 - 15	16,000	----	----	----	0
15 - 18		----	-7.9	----	3
18 - 21		4.4	-7.6	----	2
21 - 24	16,000	2.8	----	9.1	87
24 - 27		----	-6.9	----	1
27 - 30		----	----	----	0
30 - 33	16,000	4.4	-7.9	----	-14.2
33 - 36		5.4	-7.9	----	56
36 - 39		3.5	----	----	3
39 - 42	16,000	4.7	-6.6	8.5	-11.6
42 - 45		4.7	-7.2	7.8	128
45 - 48		6.6	-6.9	----	93
48 - 51	16,000	7.2	-6.0	----	178
51 - 54		6.6	-11.3	----	128
54 - 57		----	-7.2	----	93
57 - 60	16,500	8.5	-8.5	13.5	----
60 - 63		6.3	-7.9	----	120
63 - 66		9.1	-12.3	17.8	----
66 - 69	16,000	9.8	-9.1	----	-16.1
69 - 72		6.9	-6.6	9.7	----
72 - 75		8.5	-6.6	----	61
					66

^aNo records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 10 ³	Pressure altitude (ft)	Maximum effective gust velocity $U_{e,max}$ (fps)		Maximum true gust velocity $U_{t,max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 351 Traverse 3		{ Time (EST) 144030 - 144530 Length of traverse 318.2 sec, 94,170 ft Initial heading (deg) 60						
75 - 78	16,000	8.8	-12.0	15.5	-----	127	-----	7
78 - 81	16,500	13.5	-10.1	24.8	-----	303	-----	4
81 - 84		-----	-7.6	-----	-----	-----	-----	1
84 - 87		-----	-11.7	-----	-----	-----	-----	2
87 - 90		-----	-----	-----	-----	-----	-----	0
90 - 93		-----	-----	-----	-----	-----	-----	0
93 - 96		-----	-----	-----	-----	-----	-----	0
Airplane 351 Traverse 4		{ Time (EST) 145330 - 145728 Length of traverse 256.3 sec, 75,711 ft Initial heading (deg) 270						
0 - 3	16,000	-----	-----	-----	-----	-----	-----	0
3 - 6		-----	-----	-----	-----	-----	-----	0
6 - 9		-----	-----	-----	-----	-----	-----	0
9 - 12		-----	-----	-----	-----	-----	-----	0
12 - 15	16,500	-----	-8.1	-----	-----	-----	-----	1
15 - 18		9.7	-21.9	19.2	-----	57	-----	7
18 - 21		17.2	-7.5	-----	-15.2	-----	30	5
21 - 24		5.3	-11.9	-----	-17.1	-----	147	5
24 - 27		16.2	-14.4	29.8	-----	164	-----	5
27 - 30		11.5	-16.9	-----	-----	-----	-----	6
30 - 33		8.7	-10.6	12.8	-----	127	-----	6
33 - 36	17,000	6.2	-10.6	12.3	-----	160	-----	4
36 - 39		12.5	-11.5	17.8	-----	154	-----	4
39 - 42		5.0	-11.2	-----	-12.8	-----	89	6
42 - 45	17,500	6.2	-12.2	22.4	-----	174	-----	8
45 - 48		-----	-10.9	-----	-21.4	-----	170	1
48 - 51		9.4	-14.0	20.5	-----	61	-----	3
51 - 54		4.7	-8.1	-----	-----	-----	-----	2
54 - 57		-----	-----	-----	-----	-----	-----	0
57 - 60		-----	-----	-----	-----	-----	-----	0
60 - 63		5.0	-6.9	-----	-----	-----	-----	5
63 - 66	17,000	5.0	-9.7	9.3	-----	88	-----	3
66 - 69		5.3	-18.1	-----	-----	-----	-----	3

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 103	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 351 Traverse 4	Time (EST) 145330 - 145728 Length of traverse 256.3 sec, 75,711 ft Initial heading (deg) 270				
69 - 72	17,000	----	----	----	0
72 - 75		-----11.2	----	----	1
75 - 78		-----	----	----	0
Airplane 351 Traverse 5	Time (EST) 150506 - 151044 Length of traverse 411.2 sec, 122,111 ft Initial heading (deg) 70				
0 - 3	16,000	----	----	----	0
3 - 6		----	----	----	0
6 - 9		----	----	----	0
9 - 12		----	----	----	0
12 - 15		----	----	----	0
15 - 18		----	----	----	0
18 - 21		5.3 -7.1	9.4	110	2
21 - 24		-----8.4	----	----	3
24 - 27		2.8	----	----	1
27 - 30		----	----	----	0
30 - 33		5.0 -7.4	----	----	2
33 - 36		----	----	----	0
36 - 39		-----7.1	----	----	1
39 - 42		----	----	----	0
42 - 45		3.4 -7.4	-15.6	29	2
45 - 48		----	----	----	0
48 - 51		----	----	----	0
51 - 54		----	----	----	0
54 - 57		----	----	----	0
57 - 60		----	----	----	0
60 - 63		5.0	----	----	2
63 - 66		----	----	----	0
66 - 69		----	----	----	0
69 - 72		-----7.7	----	----	2
72 - 75		----	----	----	0
75 - 78		5.0	11.7	208	2

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e,max}$ (fps)		Maximum true gust velocity $U_{t,max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 351 Traverse 5		{ Time (EST) 150506 - 151044 Length of traverse 411.2 sec, 122,111 ft Initial heading (deg) 70						
78 - 81	16,000	----	-5.0	----	-----	----	----	1
81 - 84		----	-----	----	-----	----	----	0
84 - 87		----	-----	----	-----	----	----	0
87 - 90		----	-----	----	-----	----	----	0
90 - 93		----	-----	----	-----	----	----	0
93 - 96		5.6	-----	8.5	-----	310	----	1
96 - 99		----	-----	----	-----	----	----	0
99 - 102		----	-7.7	----	-----	----	----	1
102 - 105		----	-7.7	----	-12.4	----	87	2
105 - 108		12.1	-11.8	----	-----	----	----	6
108 - 111		9.0	-16.1	16.4	-----	277	----	5
111 - 114		17.0	-23.9	----	-23.9	----	30	8
114 - 117		27.3	-25.4	27.5	-----	71	----	7
117 - 120		14.6	-11.2	----	-----	----	----	4
120 - 123		----	-----	----	-----	----	----	0
Airplane 347 Traverse 1		{ Time (EST) - (b) Length of traverse 265.5 sec, 74,822 ft Initial heading (deg) 270						
0 - 3	11,000	8.6	-6.4	----	-5.8	----	187	7
3 - 6	11,500	16.3	-9.6	----	-----	----	----	5
6 - 9		5.4	-5.4	----	-----	----	----	9
9 - 12		10.8	-10.5	----	-----	----	----	7
12 - 15		8.0	-10.5	----	-----	----	----	6
15 - 18	12,000	11.2	-5.1	----	-----	----	----	5
18 - 21		6.1	-7.6	5.4	-----	116	----	6
21 - 24		5.4	-6.1	----	-----	----	----	6
24 - 27		11.2	-7.0	----	-----	----	----	7
27 - 30		9.6	-8.0	11.7	-----	28	----	6
30 - 33		7.0	-4.5	9.3	-----	252	----	4
33 - 36		8.6	-5.4	----	-13.1	----	250	4
36 - 39	11,500	8.9	-----	5.3	-----	58	----	2

^b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e \max}$ (fps)		Maximum true gust velocity $U_{t \max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 347 Traverse 1		Time (EST) - (b) Length of traverse 265.5 sec, 74,822 ft Initial heading (deg) 270						
39 - 42	11,500	10.5	-7.0	----	----	----	----	3
42 - 45		9.6	-8.6	----	-13.3	----	141	5
45 - 48		8.0	-8.0	10.0	----	57	----	6
48 - 51		10.5	-15.3	----	----	----	----	5
51 - 54		10.5	-9.9	----	----	----	----	5
54 - 57	12,000	7.3	-7.3	----	----	----	----	5
57 - 60		13.7	-5.4	----	----	----	----	7
60 - 63		8.3	-6.4	9.0	-5.4	173	28	5
63 - 66		----	-2.5	----	----	----	----	2
66 - 69		----	-2.9	----	----	----	----	1
69 - 72		2.9	-2.2	----	----	----	----	2
72 - 75		----	-2.2	----	----	----	----	1
Airplane 347 Traverse 2		Time (EST) - (b) Length of traverse 335.5 sec, 91,443 ft Initial heading (deg) 100						
0 - 3	11,000	----	----	----	----	----	----	0
3 - 6		----	-4.1	----	-10.0	----	201	2
6 - 9		2.8	----	----	----	----	----	3
9 - 12		----	-2.8	----	----	----	----	1
12 - 15		5.7	----	----	----	----	----	1
15 - 18		2.8	-2.8	4.6	-2.7	187	107	2
18 - 21		5.4	-2.8	----	----	----	----	5
21 - 24		2.8	-5.4	----	----	----	----	4
24 - 27		3.8	-5.4	----	----	----	----	3
27 - 30		5.7	-4.4	----	----	----	----	3
30 - 33		4.1	----	4.1	----	172	----	1
33 - 36		2.5	----	----	----	----	----	1
36 - 39		----	-2.2	----	-3.7	----	109	1
39 - 42		11.1	-8.2	----	----	----	----	4
42 - 45		5.7	----	----	----	----	----	2
45 - 48		5.1	-4.1	----	----	----	----	4

b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e \max}$ (fps)		Maximum true gust velocity $U_{t \max}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 347 Traverse 2		{ Time (EST) - (b) Length of traverse 335.5 sec, 91,443 ft Initial heading (deg) 100						
48 - 51	11,000	12.3	-7.0	----	-----	----	----	8
51 - 54		2.8	-11.4	----	-----	----	----	5
54 - 57		11.7	-4.7	----	-----	----	----	7
57 - 60		8.2	-10.4	----	-28.1	----	145	3
60 - 63	11,500	10.4	-10.4	13.6	-----	85	----	4
63 - 66		8.2	-13.3	----	-----	----	----	5
66 - 69		4.1	-7.6	----	-----	----	----	3
69 - 72		9.5	-5.7	----	-----	----	----	6
72 - 75		10.1	-7.9	----	-----	----	----	7
75 - 78		13.0	-16.8	----	-----	----	----	7
78 - 81		7.3	-25.3	----	-----	----	----	5
81 - 84	12,000	5.1	-----	----	-----	----	----	1
84 - 87		-----	-----	----	-----	----	----	0
87 - 90	12,500	4.1	-7.6	7.3	-----	76	----	5
90 - 93		-----	-----	-----	-----	----	----	0
Airplane 347 Traverse 3		{ Time (EST) - (b) Length of traverse 269.2 sec, 76,615 ft Initial heading (deg) 270						
0 - 3	11,000	6.6	-2.5	----	-----	----	----	5
3 - 6		5.4	-10.0	----	-----	----	----	6
6 - 9		10.4	-5.7	----	-9.7	----	263	3
9 - 12		6.3	-5.7	----	-5.8	----	186	6
12 - 15		2.5	-2.5	----	-----	----	----	7
15 - 18		8.5	-3.8	----	-----	----	----	6
18 - 21		10.4	-21.4	----	-----	----	----	5
21 - 24		7.9	-6.6	----	-----	----	----	7
24 - 27		6.9	-7.6	----	-----	----	----	5
27 - 30		5.0	-7.6	----	-----	----	----	4
30 - 33		7.6	-8.5	----	-17.3	----	472	2
33 - 36		5.0	-6.6	----	-----	----	----	3
36 - 39		5.0	-----	----	-----	----	----	1

^b Not readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft x 103	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)		Maximum true gust velocity $U_{t_{max}}$ (fps)		Gust gradient distance (ft)		No. of gusts
August 19, 1946 - Flight 24								
Airplane 347 Traverse 3		{ Time (EST) - (b) Length of traverse 269.2 sec, 76,615 ft Initial heading (deg) 270						
39 - 42	11,000	2.8	-7.9	----	-----	----	----	2
42 - 45		----	-3.8	----	-----	----	----	2
45 - 48		4.4	-5.4	----	-9.5	----	309	2
48 - 51		5.7	-----	12.5	-----	366	----	1
51 - 54		2.5	-----	----	-----	----	----	1
54 - 57		2.5	-2.5	----	-6.8	----	116	3
57 - 60		2.5	-2.5	----	-----	----	----	2
60 - 63		2.5	-2.5	----	-----	----	----	3
63 - 66		4.7	-8.2	----	-----	----	----	4
66 - 69		----	-3.2	----	-----	----	----	2
69 - 72		4.7	-----	----	-----	----	----	2
72 - 75		2.8	-2.5	----	-----	----	----	2
75 - 78		----	-----	----	-----	----	----	0
Airplane 347 Traverse 4		{ Time (EST) - (a) Length of traverse 573.8 sec, 150,910 ft Initial heading (deg) - (a)						
0 - 3	11,000	5.6	-----	----	-----	----	----	2
3 - 6		2.8	-4.7	----	-----	----	----	4
6 - 9		----	-----	----	-----	----	----	0
9 - 12		----	-----	----	-----	----	----	0
12 - 15		2.8	-2.8	----	-----	----	----	2
15 - 18		----	-2.8	----	-----	----	----	1
18 - 21		----	-2.2	----	-----	----	----	1
21 - 24		2.2	-----	----	-----	----	----	1
24 - 27		----	-----	----	-----	----	----	0
27 - 30		2.2	-2.2	----	-3.8	----	80	3
30 - 33		----	-----	----	-----	----	----	0
33 - 36		4.7	-2.5	----	-----	----	----	3
36 - 39		6.9	-5.3	----	-----	----	----	2
39 - 42		2.8	-----	4.8	-----	245	----	1
42 - 45		2.8	-2.8	----	-----	----	----	2

^aNo records obtained.

^bNot readable.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Continued

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e_{max}}$ (fps)	Maximum true gust velocity $U_{t_{max}}$ (fps)	Gust gradient distance (ft)	No. of gusts
August 19, 1946 - Flight 24					
Airplane 347 Traverse 4		Time (EST) - (a) Length of traverse 573.8 sec, 150,910 ft Initial heading (deg) - (a)			
45 - 48	11,000	2.5	-----	-----	1
48 - 51	10,500	3.7	-----	-----	1
51 - 54		-----	-----	-----	0
54 - 57	11,000	5.6	-3.4	-----	2
57 - 60		-----	-4.7	-----	1
60 - 63		4.1	-5.9	-----	2
63 - 66		2.8	-----	-----	1
66 - 69		3.1	-----	-----	4
69 - 72		3.7	-4.4	8.5	5
72 - 75		2.8	-3.7	-----	6
75 - 78		6.6	-7.5	-----	8
78 - 81		17.2	-6.9	-----	3
81 - 84	10,500	14.7	-10.0	11.5	4
84 - 87		3.1	-4.7	-----	3
87 - 90		3.1	-5.0	-----	4
90 - 93		6.9	-5.0	-----	3
93 - 96		5.6	-8.7	-----	5
96 - 99		10.9	-2.8	-----	4
99 - 102		5.6	-6.9	-----	5
102 - 105		16.5	-7.2	-----	7
105 - 108	11,000	6.2	-6.9	-----	8
108 - 111		14.7	-6.6	-----	4
111 - 114		-----	-----	-----	0
114 - 117		-----	-----	-----	0
117 - 120		-----	-----	-----	0
120 - 123		2.5	-----	-----	1
123 - 126		2.5	-----	-----	1
126 - 129		3.1	-----	-----	1
129 - 132		5.6	-5.6	10.2	3
132 - 135		4.1	-5.9	5.7	3
135 - 138		8.4	-7.2	-----	6
138 - 141		4.4	-7.8	-----	5
141 - 144		7.8	-6.6	-----	4

^a No records obtained.

TABLE I.- SUMMARY OF GUST MEASUREMENTS - Concluded

Space interval ft $\times 10^3$	Pressure altitude (ft)	Maximum effective gust velocity $U_{e\max}$ (fps)	Maximum true gust velocity $U_{t\max}$ (fps)	Gust gradient distance (ft)	No. of gusts	
August 19, 1946 - Flight 24						
Airplane 347 Traverse 4		{ Time (EST) - (a) Length of traverse 573.8 sec, 150,910 ft Initial heading (deg) - (a)				
144 - 147	11,000	----	-5.3	----	----	1
147 - 150		2.8	----	8.1	276	1
150 - 153		----	----	----	----	0
Airplane 333 ^a						

^aNo records obtained.
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TABLE II.- SUMMARY OF DRAFT VELOCITY MEASUREMENTS FROM FLIGHTS
OF P-61C AIRPLANES WITHIN THUNDERSTORMS

Date	Flight no.	Air-plane no.	Assigned altitude (ft)	Tra-verse no.	Draft location from cloud entry (ft)		Draft extent (ft)	Average draft velocity (fps)
					Start	End		
8-17-46	23	344	26,000	1	39,669 44,161	44,161 52,858	4,492 8,697	-35.3 17.9
				a ₂				
				a ₃				
				a ₄				
		345	21,000	1	62,534	67,822	5,288	29.9
		347 ^a	16,000					
		351	11,000	a ₁				
				a ₂				
				3	9,616	14,811	5,195	-21.7
				a ₄				
8-19-46	24	333 ^b						
		344	26,000	1	18,615	29,082	10,467	37.3
				a ₂				
				3	75,504	83,693	8,189	30.7
				4	12,557	18,545	5,988	29.4
				a ₅				
				6	11,089	15,264	4,175	20.7
		345	21,000	a ₁				
				a ₂				

^aNo draft velocities indicated by records.

^bNo records obtained.

TABLE II.- SUMMARY OF DRAFT VELOCITY MEASUREMENTS - Concluded

Date	Flight no.	Air-plane no.	Assigned altitude (ft)	Tra-verse no.	Draft location from cloud entry (ft)		Draft extent (ft)	Average draft velocity (fps)
					Start	End		
8-19-46	24	345	21,000	^a ₃				
				4	101,000	106,545	5,545	31.4
				1	14,293	30,787	16,494	14.1
				^a ₂				
				^a ₃				
		347	16,000	4	28,104	45,135	17,031	21.0
				^a ₅				
				1	6,088	18,588	12,500	15.4
				^a ₂				
				^a ₃				
				^a ₄				
		333 ^a						

^aNo draft velocities indicated by records.

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